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Education nursing students' in palliative care and pain therapy: an observational study

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Abstract. *Background and aim:* University education plays an important role in the preparation of future nurses, especially in the care of dying patients, which is one of the most emotionally engaging aspects. The objectives of the study were to describe the attitudes of students in end-of-life care and to analyze the possible relationship with some socio-demographic variables, through an observational study. *Research design and Methods:* Preliminarily, an analysis of the educational context of the Nursing Course (CoS) of the University of Parma was started, through a comparison of the university course with the recommendations of the MIUR concerning the teaching and learning of Palliative Care and Pain Therapy. Subsequently, a questionnaire containing the Frommelt Attitude Toward Care of the Dying Scale Form B (FATCOD-B) and some socio-demographic context variables was administered to a sample of 109 students belonging to the CoS of Nursing in Parma. *Results:* From the data collected, it emerged that university planning partly reflects the recommendations of the MIUR and how, on average, nursing students have described positive attitudes in all the dimensions investigated. Interesting is the presence of a positive relationship between the personal experiences of bereavement and the attitudes of the students. *Conclusions:* Nurses are essential in ensuring the quality of care provided to patients at the end of life; Nursing training in Palliative Care and Pain Therapy should include a complete and varied program (frontal activity, simulation, internship paths...) in order to develop positive student attitudes associated with high levels of satisfaction and improvement of the quality of care provided. (www.actabiomedica.it)

Key words: End-of-life care, palliative care, undergraduate students, attitudes, nursing education, clinical simulation, FATCOD

Introduction

In the national scenario, the progressive senility of the population has led to an increase in the incidence of chronic-degenerative diseases with a fatal evolution, with consequent development of the meaning of Palliative Care (PC) and End of Life Care (ELC) (1). Today, in fact, we are witnessing the overcoming of the concept of PC, intended as minimising the suffering of patients with malignant oncological pathology with an inauspicious prognosis. The new concept includes treatments resulting from other diseases such as heart failure, Chronic Obstructive Pulmonary Disease, renal failure, neurodegenerative diseases, liver failure and Alzheimer's disease (2, 3). On the other hand, ELC are an important part of PC and refer to support and assistance in the period before death, which could consist of days, weeks or months (3). Over the last few years, the meaning of PC has been further expanded and Pain Therapy (PT) has also been included (L. 38/2010). In fact, since pain is one of the most recurrent symptoms in patients with chronic and degenerative pathologies:

Palliative Care and Pain Therapy have finally been integrated. Law 38/2010 regulates and simplifies either the access to medicines used for the treatment of pain or all organizational, training, information and planning aspects involving the multidisciplinary team. Taking care of dying people involves the provision of holistic care that includes biological (treatment of pain, nausea and constipation), psychological (management of anxiety, depression and agitation), social (taking care of the patient's family) and spiritual (identification of sources of stress from a spiritual point of view) dimensions with the ultimate goal of improving patient's quality of life (4,5). The management of patients with chronic degenerative diseases is recognised as a significant stress factor for health professionals (6), due to not always adequate knowledge that can hinder high quality care and lead nurses to developing negative attitudes towards the person with palliative care needs P(3). The expression of uncertainty and feeling inadequate are often linked to a lack of training and inexperience (4,7).

International researches have shown gaps in knowledge and skills regarding PCs and PDs for both trainees and newly graduated nurses (8). Targeted training could improve the acquisition of basic principles of PC and PD (8). Primary education should be offered to all nursing students by the end of their university education, to make them qualified in providing care, regardless of the clinical context (9). In basic training, theoretical contents applied to practice also contribute to the development of behaviors in situated contexts (10).

The need for adequate training courses is confirmed in the document 512/2020 drawn up by the Ministry of Education, University and Research (MIUR) which proposes "a hypothesis of a training course in Nursing", to make up for the lack of training in PC and PT (11,12). This document is based on the recommendations issued at European level by the European Society for Palliative Care (EAPC, 2004). Specifically, the MIUR invited universities to adopt this document, in the sections concerning teaching and learning in the disciplines of PC and PT and the related educational programs (13).

However, globally, pre-graduate nursing education varies in terms of programs, content and duration (14) and there is concern about education on the subject (15). Many university training programs do not have a course dedicated to patient care in PC and PT, but these topics are addressed within other less specific courses (14). Furthermore, some studies point out that the themes of CP and PT have little pratical relevance, specifically in curricular internships (16,17).

In the process of developing PC and PT skills, during the training course, two other variables seem to be important: perceived self-efficacy and students' attitudes (18). Self-efficacy refers to the student's perception of their own ability and is an important predictor of their motivation, learning ability and performance. Attitudes refer to levels of satisfaction and perception of the quality of care provided (19).

Attitudes towards death and dying, in general, are psychological behaviors learned as part of people's social and cultural experiences throughout their life. These attitudes can be influenced by factors such as age, gender, previous experiences of bereavement in the family, professional training, clinical experiences and the working career (2,3). While competence is a set of interrelated skills that allows a person to act effectively in a given situation, attitudes are an expression of a system of value and knowledge that everyone has or learns throughout their life.

Studies have shown that nurses' attitudes towards care in PCs can have an important influence on the quality of care provided (20). In this respect, positive attitudes towards PC are essential for nursing students to feel confident and develop the necessary skills for holistic and quality care (6,21). On the contrary, negative attitudes have a large effect on the educational system, as they affect students' willingness to continue their path to become nurses, worsening the shortage of nurses (21).

A targeted educational process could effectively help students to become aware of their own emotions, conduct and behaviors as well as help them to develop positive attitudes and thus to deliver quality care (22). Inadequate academic education, on the other hand, may lead to some unfavorable behaviors, such as patient avoidance, fear, doubts and communication problems (6). In this sense, it becomes essential to accompany the student in understanding the three components involved: cognitive, emotional and behavioral.

The way these components express themselves will influence the behaviors acted out (11).

In summary, while the legislation and the relevance of PC and PT in healthcare contexts, both in epidemiological and clinical-care terms, to be well understood, more reflection would seem to be needed with respect to the academic education provided to nursing students. Institutions responsible for research and training in the field of PC argue that nurses should have a preparation in the basic university path and that specific courses at any university level are necessary (21). It is essential to assess students' attitudes towards death before they begin their career (22). Attitudes become important factors to consider in evaluating the care provided to patients and their families and the related outcomes of care.

These were the theoretical and substantive assumptions underlying the study. The research aimed to describe the attitudes of the students of the Nursing Degree Course from a University in Northern Italy, in patient care management, in CP and TD and families involved in the end-of-life assistance process. Furthermore, the purpose was to investigate possible relationships between the attitudes of nursing students and some variables (e.g. age, gender, religion, personal bereavement experiences...).

Methods

Phases and design of the study

The first phase of the research provided the analysis of the reference training context (Course of Studies (CoS) in Nursing of the University of Parma (UNIPR) in order to describe the adherence of the study plan to the MIUR Guidelines (12).

Subsequently, a field study was conducted, through an observational research design, to describe the attitudes of the students in the management of the dying patient, in PC and PT and his family.

Participants in the study

The study envisaged a non-probabilistic and convenience sampling strategy. The students of the UNIPR Degree Program in Nursing were included, enrolled in the third year of the academic program and close to graduation (academic year 2020/2021). The students must have completed clinical internships and exams. Students who did not give their consent to the study were excluded from it.

Table 1 describes the socio-demographic characteristics (e.g. gender, age, religious belief), and the experiential ones (e.g. training, received in PC, lived experiences) of the partecipants (n. 109).

Instruments

An ad hoc checklist was used to analyze the training context. The check list provided for the didactic forms / profile of teachers, regarding university teaching on the subject of PC and PD, provided for by the recommendations of the MIUR. Specifically, the didactic forms of reference were: theoretical training (University Educational Credits -T), which included classroom teaching and professional training (University Educational Credits -F); the latter didactic form included the tutorial sessions - exercises / simulations - internship. To better define the various didactic forms, the check list also included the relative descriptors, based on the reference document (12). Each didactic form / teacher profile was analyzed on three levels: "criterion completely satisfied" (total correspondence to MIUR recommendations), "criterion partially satisfied" (partial correspondence to MIUR recommendations) and "criterion not satisfied" (complete absence of correspondence to recommendations MIUR) (Table 2 and Table 3).

To describe the construct, student attitudes, the survey tool was a self-report containing a nationally validated scale, FATCOD-B (Frommelt Attitudes Toward Care of the Dying Scale - Form B). This tool, validated in Italian in 2015 (11), investigated the attitudes of nursing students with respect to care for PC patients and their families. Specifically, the scale investigated six factors / dimensions: fear / malaise, family assistance, communication, family as caregiver, relationship and personalized assistance (Table 4).

The FATCOD-B scale consisted of 30 items, of which 15 items were positively formulated (1, 2, 4, 10, 12, 16, 18, 20, 21, 22, 23, 24, 25, 27 and 30) and 15 negatively formulated items (3, 5, 6, 7, 8, 9, 11, 13, 14, 15,

Table 1. Socio-demographic and experiential characteristics (Number. 109- Frequencies and Percentages)

Sample frequencies				
Features	**Values**	**Frequency**	**% valid**	**% cumulative**
Gender	Female	88	80.7	80.7
	Male	21	19.3	100
	Total	109	100	
Age	20-29	103	94.5	94.5
	30-39	3	2.8	97.3
	40-49	1	0.9	98.2
	>50	2	1.8	100
	Total	109	100	
Religion	Catholic	76	69.7	69.7
	Jew	0	0	69.7
	Protestant	0	0	69.7
	Mussulman	3	2.8	72.5
	Atheist	22	20.2	92.7
	Other	8	7.3	100
	Total	109	100	
Influence religion	It has no influence	9	8.3	8.3
	Little influence	25	22.9	31.2
	Strong influence	75	68.8	100
	Total	109	100	
Previous training	I have never received training in PC	12	11	11
	I followed theoretical course (seminar) in PC	80	73.4	84.4
	I took a pratical course (internship) in PC	6	5.5	89.9
	I tool a theoretical and prctisal course in PC	8	7.3	97.2
	I have learned about PC from other courses	3	2.8	100
	Total	109	100	
Experiences with dying patients	YES	64	58.7	58.7
	NO	45	41,3	100
	Total	109	100	
Current grieving experiences	YES	13	11.9	11.9
	NO	96	88.1	100
	Total	109	100	
Previous personal grieving experiences	YES	96	88.1	88.1
	NO	13	11.9	100
	Total	109	100	

17, 19, 26, 28 and 29). The tool also used a 5-point Likert scale: in the positive statements, "1" corresponded to "strongly opposed" and "5" to "definitely agree" (the other points indicated intermediate scores); these scores were reversed in the case of negatively formulated items.

The psychometric properties of the scale were found to be good (Cronbach's Alpha coefficient = 0.83) according to the classification of Guilford (25) and Nunnally (26).

The total score of the scale, given by the sum of the scores for each answer, could be between

Table 2. Comparison Check List between the Unipr CdS Nursing Study Plan with MIUR Doc. 512/2020 recommendations regarding teaching in Palliative Care

	REFERENCE CONTEXT ANALYSIS TOOL: CoS NURSING UNIPR					
	DOCUMENT REFEENCE: DOC 512 OF 10 JANUARY 2020 MIUR – PROGRAM FOR THE TEACHING/LEARNING OF PALLIATIVE CARE (PC) AND PAIN THERAPY (PT) IN THE DEGREE COURSES IN MEDICINE AND SURGERY, NURSING SCIENCES, PSYCHOLOGY, SOCIAL SERVICE.					
	UNIT OF ANALYSIS		DESCRIPTOR (REFERENCE CRITERIA)	**CRITERIA COMPLETELY SATISFIED** (Compared to the Miur 512/2020 program)	**CRITERIA PARTIALLY SATISFIED** (Compared to the Miur 512/2020 program)	**CRITERIA NOT SATISFIED** (Compared to the Miur 512/2020 program)
INSEGNAMENTO CURE PALLIATIVE	UNIVERSITY EDUCATIONAL CREDITS – T (THEORETICAL TRAINING)	CLASSROOM TEACHING	For frontal teaching mean that carried out through classroom lectures for a total of 12-15 hours. It can be included in the integrates courses of Chronic and Community Nursing, generally held in the 2nd year.	In the second year of the course it is here: - integrated course of Chronic Nursing (60 hours) within which PC issues are dealt with. In the third year of the course there are: - Seminar (10 hours) - EDA (Elective Didactic Actyvity) chosen by the student (12 hours) - Teaching "Antalgic Therapy and Palliative Care" (10 Hours)		
		TUTORIAL SESSIONS, EXERCISES, SIMULATIONS.	According to the Hypothesis of the training path in Nursing (MIUR document 512/2020 attached), tutorial sessions are recommended that prepare the student for the internship experience, exercises, simulations that develop the technical, relational and methodological skills of the student, in a protected situation. or in contexts real.			Not present in the CoS in Nursing.

Table 2 (*Continued*)

REFERENCE CONTEXT ANALYSIS TOOL: CoS NURSING UNIPR					
DOCUMENT REFEENCE: DOC 512 OF 10 JANUARY 2020 MIUR – PROGRAM FOR THE TEACHING/LEARNING OF PALLIATIVE CARE (PC) AND PAIN THERAPY (PT) IN THE DEGREE COURSES IN MEDICINE AND SURGERY, NURSING SCIENCES, PSYCHOLOGY, SOCIAL SERVICE.					
UNIT OF ANALYSIS		DESCRIPTOR (REFERENCE CRITERIA)	**CRITERIA COMPLETELY SATISFIED** (Compared to the Miur 512/2020 program)	**CRITERIA PARTIALLY SATISFIED** (Compared to the Miur 512/2020 program)	**CRITERIA NOT SATISFIED** (Compared to the Miur 512/2020 program)
INSEGNAMENTO CURE PALLIATIVE	UNIVERSITY EDUCATIONAL CREDITS – P (PROFESSIONAL TRAINING)	INTERNSHIP	Learning in the field is a very powerful training tool provided it is organized according to the principles of active teaching and is not a mere exposure of the student to passive observation. Debriefing sessions are recommended to reflect and process the experience. The internship locations are identified in Hospices, home CPUs, hospital CPUs, CP clinics. The minimum number of hours required for training is 2 CFU (60 hours).		In the third year of the course, internship experiences in CP structures are foreseen, which cannot be used by all students due to a limited training request (180 hours).	

Table 3. Comparison Check List between the Unipr CdS Nursing Study Plan with MIUR Doc. 512/2020 recommendations regarding teaching in Pain Therapy

	REFERENCE CONTEXT ANALYSIS TOOL: CoS NURSING UNIPR					
	DOCUMENT REFEENCE: DOC 512 OF 10 JANUARY 2020 MIUR – PROGRAM FOR THE TEACHING/LEARNING OF PALLIATIVE CARE (PC) AND PAIN THERAPY (PT) IN THE DEGREE COURSES IN MEDICINE AND SURGERY, NURSING SCIENCES, PSYCHOLOGY, SOCIAL SERVICE.					
	UNIT OF ANALYSIS		**DESCRIPTOR (REFERENCE CRITERIA)**	**CRITERIA COMPLETELY SATISFIED (Compared to the Miur 512/2020 program)**	**CRITERIA PARTIALLY SATISFIED (Compared to the Miur 512/2020 program)**	**CRITERIA NOT SATISFIED (Compared to the Miur 512/2020 program)**
INSEGNAMENTO TERAPIA DEL DOLORE	UNIVERSITY EDUCATIONAL CREDITS – T (THEORETICAL TRAINING)	CLASSROOM TEACHING	For frontal teaching mean that carried out through classroom lectures for a total of 12-15 hours. It can be included in integrated nursing courses in the Critical Area, generally held in the 3rd year of the course (MED / 41).	MED/41 In the third year of the course the teaching of "Anesthesia and Reanimation" (10 hours), and the teaching of "Antalgic Therapy and Palliative Care" (10 hours) are carried out.		
		TUTORIAL SESSIONS, EXERCISES, SIMULATIONS.	According to the Hypothesis of the training path in Nursing (MIUR document 512/2020 attached), tutorial sessions are recommended that prepare the student for the internship experience, exercises, simulations that develop the technical, relational and methodological skills of the student, in a protected situation. or in contexts real.			Not present in the CoS in Nursing.

Table 3 (*Continued*)

	REFERENCE CONTEXT ANALYSIS TOOL: CoS NURSING UNIPR					
	DOCUMENT REFEENCE: DOC 512 OF 10 JANUARY 2020 MIUR – PROGRAM FOR THE TEACHING/LEARNING OF PALLIATIVE CARE (PC) AND PAIN THERAPY (PT) IN THE DEGREE COURSES IN MEDICINE AND SURGERY, NURSING SCIENCES, PSYCHOLOGY, SOCIAL SERVICE.					
	UNIT OF ANALYSIS		**DESCRIPTOR (REFERENCE CRITERIA)**	**CRITERIA COMPLETELY SATISFIED (Compared to the Miur 512/2020 program)**	**CRITERIA PARTIALLY SATISFIED (Compared to the Miur 512/2020 program)**	**CRITERIA NOT SATISFIED (Compared to the Miur 512/2020 program)**
INSEGNAMENTO TERAPIA DEL DOLORE	UNIVERSITY EDUCATIONAL CREDITS – P (PROFESSIONAL TRAINING)	INTERNSHIP	Learning in the field is a very powerful training tool provided it is organized according to the principles of active teaching and is not a mere exposure of the student to passive observation. Debriefing sessions are recommended to reflect and process the experience. The internship locations are identified in the structures of the PT network (Outpatient and Pain Therapy Units, Acute Pain Service, Childbirth Analgesia services). The minimum number of hours required for training is 2 CFU (60 hours).		In the third year of the course there are internship experiences at the First Aid, Intensive Care and Intensive Care Units in which students develop learning on the subject of PT. An internship in one of the structures of the PT network is not contemplated.	

Table 4. Aggregation factors between FATCOD-B scale items

Factor	item
F1: Fear / Malaise	1,3,5,7,8,13,14,15,26
F2: Assistance to the patient's family	4,16,22
F3: Communication	2,6,11,27,28,30
F4: Family as Caregiver	12,18,20
F5: Relation	9,10,17,21,29
F6: Personalized assistance	19,23,24,25

30-150 points. A high score was an indicator of more positive attitudes towards assisting this type of care (11).

For the administration of the questionnaire, subject to authorization by the competent academic bodies, the official University platform "ELLY" was used, in the sections relating to the academic years concerned (AY 2020/2021 for undergraduates with a thesis session in November 2021, AY 2021 / 2022 for undergraduates attending the graduation session scheduled for April 2022). A day of presentation of the project was scheduled, in which the method of compiling the survey tool was also explained to the students. The questionnaires were administered between November 2021 and February 2022.

Ethical considerations

The CoS of Nursing has agreed to the administration of the questionnaire to the students. Joining the research project was voluntary and free from any form of benefit or coercion. The completion of the questionnaire was considered as a consent by the student to participate in the study and the confidentiality of the information collected was communicated given the sensitive nature of the data, according to current legislation.

Data analysis

The analysis of the didactic forms / profile of the teachers who are present in the training course of the CoS in Nursing and which concern the PC and PT, provided for a comparison between the Framework of Educational Activities (FEA) and the programs of the courses of the Degree Course in Nursing and the recommendations issued by the MIUR regarding the teaching courses of CP and TD (student cohort 2018). The units of analysis were the didactic forms: theoretical training (classroom teaching, tutorial sessions, exercises and simulations) and professional training (internship).

For the description of students' attitudes, the collected data was entered into a database on an Excel sheet and, subsequently, the file was transferred to the IBM SPSS Statistics version 26 (Windows Installation Instructions, Authorized User license) program for statistical analysis.

Through the Shapiro-Wilk test (statistical significance $p < 0.05$) the normal distribution of the sample values was evaluated. The socio-demographic variables of reference were analyzed, according to the relative levels of measurement, through descriptive statistics and frequency tables.

The main summary statistical indices of the sample were calculated on the total score of the scale. An acceptability cut-off of the total score of the scale was calculated, indicating positive attitudes declared by the study participants. In this sense, a proportion was performed, taking into consideration the minimum totalizable level (30) and the maximum totalizable level (150), in order to obtain a satisfactory score in terms of positive attitudes. The cut-off set was => a 3.5 (corresponding to => 105 points on the scale), to deviate from the central value of the scale measurement level which indicates an area of uncertainty with respect to the perception of attitudes in the management of the patient who requires CP (3).

Another level of analysis involved the construction of synthesis indicators of the dimensions of the investigated construct (fear and malaise, assistance to the patient's family, communication, family as caregiver, relationship and personalized assistance), in order to describe them.

Finally, parametric statistics, the One Way Anova analysis of variance test were used, in order to investigate any relationships between the dependent variable (positive attitudes) and the independent variable (e.g. previous personal experiences of bereavement, previous experiences of assistance to dying patients...), taken into consideration in the study.

Results

Regarding the analysis of the educational context, with respect to the teaching of PC and PT, both classroom teaching (e.g. integrated courses in chronic and community nursing; integrated nursing courses in the critical area) and the profile of the teachers were aligned with the recommendations cited in the MIUR document 512/2020 (criterion completely satisfied). With respect to vocational training, the training offer does not include sessions relating to exercises and simulations, useful for the internship experience and the development of technical and methodological skills and soft-skills in a protected situation or in real contexts. Only the tutorial sessions are present (e.g. meetings with the didactic tutors for the re-elaboration of internship experiences in the specific contexts of PC), therefore, the criterion is partially satisfied.

Learning in the field (non-observational), a powerful and irreplaceable training tool, is an opportunity guaranteed only to a part of the students. However, the high variability of the training offer in the reference internship contexts places the student in contact with terminal patients or with chronic-degenerative diseases even outside the PC network (e.g. Critical Long-Term Care Unit). Therefore, the criterion is partially satisfied.

With regard to the teaching of the PT, both the classroom teaching and the profile of the teachers were found to be in line with the recommendations cited in the MIUR 512/2020 document (criterion completely satisfied). Compared to professional training, there are no simulations that prepare the student for the internship experience and the development of methodological skills and soft-skills in a protected situation or in real contexts. Also in this case, only the tutorial sessions and practical exercises are present (e.g. practical workshops on the use of assessment scales, discussion of clinical cases within the teaching nursing record), therefore, the criterion was partially satisfied).

With regard to on-the-job learning (non-observational), students do not carry out internships at the PT network, but internships are planned in the third year in the UU.OO. First Aid, Resuscitation and Post Operative Intensive Care, where there is the possibility of learning pain management in specific contexts (criterion partially met).

On average, students declared positive attitudes towards assistance in PCs (μ = 112.77) with a minimum value of 86/150 points and a maximum value of 131/150 points (*Table 5*).

Most of the participants (88/109) describe positive attitudes (Table 6), that is psychological behaviors learned as part of the social and cultural experiences during their life.

No significant relationships emerge between the construct and the variables age, gender, religious belief, religious influence, PC training, current experiences of bereavement and end-of-life patient care experiences. On the other hand, statistically significant relationships are shown between perceived attitudes and previous personal experiences of bereavement (Table 7; Figure 1). Students with a personal experience

Table 5. Measurements of central tendency on the FATCOD-B scale Descriptive

			Statistics	Standard error
Total	Average		112,7706	,79409
	95% confidence interval for the media	Lower limit	111,1966	
		Upper limit	114,3447	
	Media ritagliata al 5%		113,0092	
	Median		113,0000	
	Variance		68,734	
	Standard deviation		8,29059	
	Minimum		86,00	
	Maximum		131,00	
	Interval		45,00	
	Interquartile range		11,50	
	Asymmetry		-,372	,231
	Curious		,387	,459

Table 6. Acceptable score describing positive attitudes.

Acceptable score describing positive attitudes (Total number of partecipants 109)		
cut-off fixed	**Frequency**	**%**
>= 105	88	80.7
< 105	21	19.3
Totale	109	100

Table 7. One Way Anova for variance analysis between the score obtained from students and previous personal grieving experiences ANOVA

	Sum of squares	gl	Quadratic mean	F	Sign.
Between groups	293,997	1	293,997	4,412	,038
Within the groups	7129,269	107	66,629		
Total	7423,266	108			

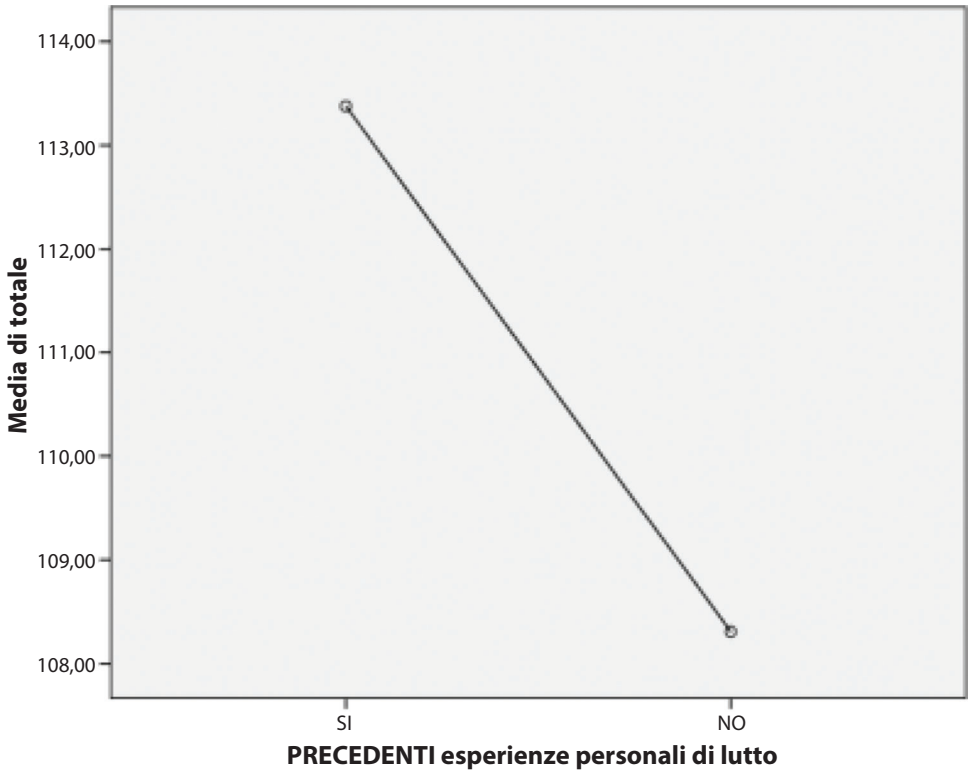

Figure 1. One Way Anova for variance analysis of the score obtained from students and previous personal grieving experiences.

of mourning seem to have positive attitudes with respect to the dimensions investigated:

- Fear and Malaise: greater barriers to the expression of positive attitudes towards death and dying;
- Assistance to the patient's family: support during the bereavement process;
- Communication: necessary tool for undertaking, maintaining and fostering an interpersonal relationship;
- Family as caregiver: contribution of family members in assisting the dying patient, in terms of psychological, clinical, spiritual, social and physical needs;
- Relationship: fundamental concept in nursing, based on a natural propensity for relationships on the part of people;
- Personalized assistance: respect for the patient's choices and objectives at the end of life.

Participants, in descending order (Table 8), attribute greater importance to the "fear / malaise" dimension, followed by those relating to "communication", "relationship", "personalized assistance", "family as caregiver", "assistance to the patient's family ". With respect to the

Table 8. Descriptive statistical analysis of the 6 factors in descending order. Descriptive statistics

	N	Minimum	Maximum	Average	Standard deviation	Variance
Fear / Malaise	109	23,00	41,00	32,9817	3,57973	12,814
Communication	109	13,00	28,00	22,0459	2,85899	8,174
Relation	109	13,00	23,00	17,4679	2,25901	5,103
Personalized assistance	109	11,00	19,00	14,9083	1,62470	2,640
Family as Caregiver	109	9,00	15,00	13,0275	1,37072	1,879
Assistance to the patient's family	109	6,00	15,00	12,1560	2,02838	4,114
Number of valid cases (listwise)	109					

fear / malaise dimension, on average, the participants describe a positive attitude towards assistance to a patient in the terminal phase of life ($\mu = 32.58$; $\sigma = 3.57$), believing it to be a useful and satisfying training experience, both from a personal and professional point of view. Students describe feeling comfortable in communicating with the dying patient, regarding the concept of death, and are not afraid of establishing emotional bonds with the client. On average, students describe a positive attitude with respect to the dimension of "communication" ($\mu = 22.04$; $\sigma = 2.85$) giving importance to its effectiveness and believing that death is an integral part of the life cycle and do not declare particular difficulties in facing it with clients. The students also consider the nurse as the one who can help the patient prepare for death (e.g. pray according to her cult) and recognize the responsibility in assisting the family during the grieving process. In describing positive attitudes, students on average declare that they have no difficulty in establishing a relationship with the terminally ill patient and his family ($\mu = 17.46$; $\sigma = 2.25$). However, deepening the results of the dimension, the students would seem to declare uncertain attitudes regarding their own emotional involvement in the phases preceding the patient's death ($\mu < 3.5$). In the dimension referring to personalized assistance, the participants outline positive attitudes on average ($\mu = 14.90$; $\sigma = 1.62$) considering the involvement of the client and his family to be important in making decisions regarding needs (e.g. care physical needs, management of drug addiction, presence of family members in the facility...). Also in this dimension, as in the previous one, the participants on average describe a positive attitude ($\mu = 13.02$; $\sigma = 1.37$). Even in the dimension of assistance to the family, students on average describe positive attitudes ($\mu = 12.15$; $\sigma = 4.11$) believing that the family of the dying patient needs assistance in the process of grieving and, even before that, to be guided in the role of caregiver.

Conclusions

The commitment of nurses and health professionals in the provision of quality care depends on their point of view, their attitudes towards death and the dying patients they care for (5). Expanding their knowledge in this field and contributing to the development of positive attitudes through targeted education is therefore essential (27). A university training course must accompany students in the development of knowledge and positive attitudes in the management of patients in PC and PT, with positive repercussions on the outcomes of the patients and their loved ones. In general, the recommendations relating to the PC and the PT, provided by the MIUR, seem to have been incorporated within the training offer of the CoS of Nursing of the UNIPR. However, some food for thought is worthwhile on the possible integration of training courses for full adherence to the criteria set by the Ministry of Education. Specifically for professional training (exercises, tutorial sessions and simulations) it would be interesting to envisage the opportunity to consider targeted simulation sessions, as confirmed by the literature (20,23). The use of simulation with terminal patients and chronic-degenerative diseases can be a solution to recreate a realistic nursing care experience at the end of life, as it provides experiential learning with results comparable to those of

clinical practice (20,22). Regarding the internship experience, specific paths could be envisaged integrating those already existing that guarantee the fairness of the internship path to all students: for example, considering the limit, often present, linked to the mismatch between training demand and offer, he could think of a rotation within the PC network of students from the second year of the course. With respect to training in the field in PT, a part of the path planned in the Critical Area could be structured at the structures of the PT network (e.g. UU.OO. Antalgic Therapy). Student attitudes have been defined in the literature as psychological behaviors learned as part of people's social and cultural experiences throughout their life: for health professionals, these attitudes can be influenced by factors such as age, sex and previous experiences of bereavement lived in the family, but above all from professional training, clinical experiences and years of working career (2-3). Attitudes, therefore, become important factors to consider in evaluating the care provided to patients and their families and the related outcomes (28). In general, the participants presented a "positive attitude", in all the dimensions that describe it ("fear / malaise", "assistance to the patient's family", "communication", "family as caregiver", "relationship" and "assistance customized"), compared to the cut-off that the researchers have set, an aspect that is an original contribution of the study conducted as it is not evident in the literature. Therefore, the students seem to have internalized the new paradigm of nursing care, namely that of taking care of incurability, which supports and integrates the "classic", dominant paradigm, that of the treatment of the disease (2).

In line with the contributions of some authors (6), students with previous personal grieving experiences tend to have a positive attitude in patient management in the PC network. However, although there is no statistically significant relationship with the construct, the "age" variable is worthy of further study and it would therefore be interesting to extend the study to participants with varied age and experience (e.g. working nurses). The results of the study do not reveal significant relationships, as evidenced by other contributions in the literature (14), between construct and gender, religious belief, religious influence, previous training in PC, current experiences of bereavement and previous experiences of caring for patients at the end of life.

Although the students on average demonstrate positive attitudes towards patient and family management, it is still necessary not to underestimate but, on the contrary, also pay attention to that percentage of participants, albeit in a minimal number, who described negative/uncertain attitudes. The sense of insecurity of students, in fact, can worsen their ability to cope with end-of-life situations, while nurses trained in PC and PT will tend to adopt behaviors aimed at preserving the dignity of the dying patient, guaranteeing the quality of residual life (8).

Therefore, it is necessary to strengthen the training courses in order to keep the positive attitudes of the students constant and aim for ever more optimal levels. The researchers, in the light of these last considerations, have identified how the results of the study could have repercussions in the reference training context: specifically, the focus was on the training area that was more sensitive to further future developments, namely the "professional training", in its part of tutorial sessions, exercises and simulations. The simulation of a clinical scenario was chosen as the teaching methodology to be integrated, as defined within the MIUR recommendations, and in the literature, as the most effective methodology for developing positive attitudes (29,30). This methodology, also, takes into account the result that emerged from the study, in which the processing of bereavement experiences becomes an anchor for the development of positive attitudes in patient management in PC and PT. The researchers therefore designed, as practical implications for the future, a project proposal, in the planning of which the model proposed by the contribution "simulation in nursing" was used (31). In any case, these proposals will take into account the limit identified in the study relating to the smallness of the sample considered. This is to ensure results applicable to the whole universe of nursing students. In conclusion, nurses play a fundamental role in ensuring the quality of care provided to patients in PC and PT; nursing training should include a complete and varied program (frontal activity, exercise, tutorial activity, simulation and experiential internship paths) and tutorial skills (32) in order to develop positive student attitudes associated 0with high levels of satisfaction and improvement of the quality of care provided.

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